

Mapping Indiana Broadband

INDIANA BROADBAND SUMMIT
MAY 30, 2013

JIM SPARKS
INDIANA GIO

"Once we have computer outlets in every home, each of them hooked up to enormous libraries where anyone can ask any question and be given answers, be given reference materials, ...[then] you can ask, and you can find out, and you can do it in your own home, at your own speed, in your own direction, in your own time..."

-Isaac Asimov, 1988

1988

- USSR Plans To Withdraw From Afghanistan
- Noriega Indicted On Drug Charges
- Prostitute Reveals Liaison, TV Preacher Jimmy Swaggart Resigns
- Republicans sweep 40 states in election, and Bush beats Dukakis

Fun Facts

- 30% of 2 to 5-year-olds know how to operate a smart phone or tablet computer
- 61% of that group can play a basic computer game
- More than one-third of smart phone users get online before getting out of bed
- Adults are staring at screens for at least eight hours a day
- We spend more time connected than we spend on any other activity including sleeping

Does this sound familiar?

- Do you quickly scan short passages of text from many sources online?
- Do you have trouble reading lengthy articles (on-line or on paper)?
- Are you reading fewer books for pleasure than you used to?
- Do you have trouble concentrating for more than a minute?
- Is it difficult to disconnect from your devices?



Five ways the Internet is rewiring our brains

ONLINECOLLEGE.ORG

[HTTP://WWW.ONLINECOLLEGE.ORG/15-BIG-WAYS-THE-INTERNET-IS-CHANGING-OUR-BRAIN](http://www.onlinecollege.org/15-big-ways-the-internet-is-changing-our-brain)

1. WE DON'T BOTHER TO REMEMBER

- In a study by Science Magazine, students were asked to type in pieces of trivia, and depending on their group were told that their information would either be erased or saved. The group that was told their data would be saved were less likely to remember. This study indicates that **people have lower rates of recall when they can expect to be able to access information in the future.**

2. OUR CONCENTRATION IS SUFFERING

- In an article for The Atlantic, Nicholas Carr relates his growing difficulty in deep reading.
- Like so many others, he finds that "deep reading that used to come naturally has become a struggle." It's not hard to figure out why.
- Our time online is often spent scanning headlines and posts and quickly surfing links, never spending much time on any one thing. So of course, when it comes to reading more than a few minutes, or even moments, of information, your mind will often begin to wander.

3. WE HARDLY EVER GIVE TASKS OUR FULL ATTENTION

- Have you ever updated your Facebook while listening to music and texting a friend? If so, you've experienced the phenomenon of continuous partial attention and its impact on your brain.
- It remains to be seen if partial attention is a distraction as most believe, or an adaptation of the brain to the constant flow of stimuli.

4. WE'RE BECOMING PHYSICALLY ADDICTED TO TECHNOLOGY

- Even after unplugging, many Internet users feel a craving for the stimulation received from gadgets. **The culprit is dopamine, which is delivered as a response to the stimulation** — without it, you feel bored.
- The wife of a heavy technology user notes that her husband is "crotchety until he gets his fix." After spending time online, your brain wants to get back on for more, making it difficult to concentrate on other tasks and "unplug."

5. CREATIVE THINKING MAY SUFFER

- Some experts believe that memorization is critical to creativity.
- William Klemm, a neuroscience professor at Texas A&M University insists that "Creativity comes from a mind that knows, and remembers, a lot."



But it may not be all bad news...
Five more ways the Internet is rewiring
our brains

[ONLINECOLLEGE.ORG](http://www.onlinecollege.org)

[HTTP://WWW.ONLINECOLLEGE.ORG/15-BIG-WAYS-THE-INTERNET-IS-CHANGING-OUR-BRAIN](http://www.onlinecollege.org/15-big-ways-the-internet-is-changing-our-brain)

1. THE MORE YOU USE THE INTERNET, THE MORE IT LIGHTS UP YOUR BRAIN

- Experienced surfers showed much more brain activity than novice users, especially in the areas typically devoted to decisions and problem solving.
- "Five hours on the Internet and the naive subjects had already rewired their brains," noted Small, suggesting that over time, **Internet use changes neural pathways.**

2. THE INTERNET IS OUR EXTERNAL HARD DRIVE

- We don't have to remember phone numbers or addresses anymore. Instead, we can just hop on our email or Google to look it up.
- According to a study by Science Magazine, "the Internet has become a primary form of external or transactive memory, where information is stored collectively outside ourselves," and **our brains have become reliant on the availability of information.**

3. WE'RE GETTING BETTER AT FINDING INFORMATION

Although we can't remember it all, we're getting better at finding the information we need.

- It seems that the brainpower previously used to retain facts and information is now being used to remember how to look it up.
- Professor Betsy Sparrow indicates that this isn't necessarily a bad thing, and may even be "kind of amazing," as **we're adapting to new technology and becoming highly skilled in remembering where to find things.**

4. WE'RE GETTING BETTER AT DETERMINING RELEVANCE

- With so much information, it's only natural that some of it is junk.
- It's up to us as readers and consumers of information to determine what's relevant and reliable, and with so much practice, **our brains are getting better at this task every day.**

5. WE'VE BECOME POWER BROWSERS

- Online browsing has created a new form of "reading," in which users aren't really reading online, but rather power browsing through sites.
- Instead of left to right, up to down reading, we seem to scan through titles, bullet points, and information that stands out.



Mapping Indiana Broadband: An Update

IC 4-23-7.3 (7/1/2007)

The state GIS Officer shall do the following:

- **Facilitate GIS data cooperation** between units of the federal, state, and local governments.
- **Integrate GIS data and framework data** developed and maintained by state agencies and political subdivisions **into the statewide base map**.
- **Develop and maintain statewide framework data layers** associated with a statewide base map or electronic map.
- Except as otherwise provided in this chapter, **provide public access to GIS data** and framework data in locations throughout Indiana.

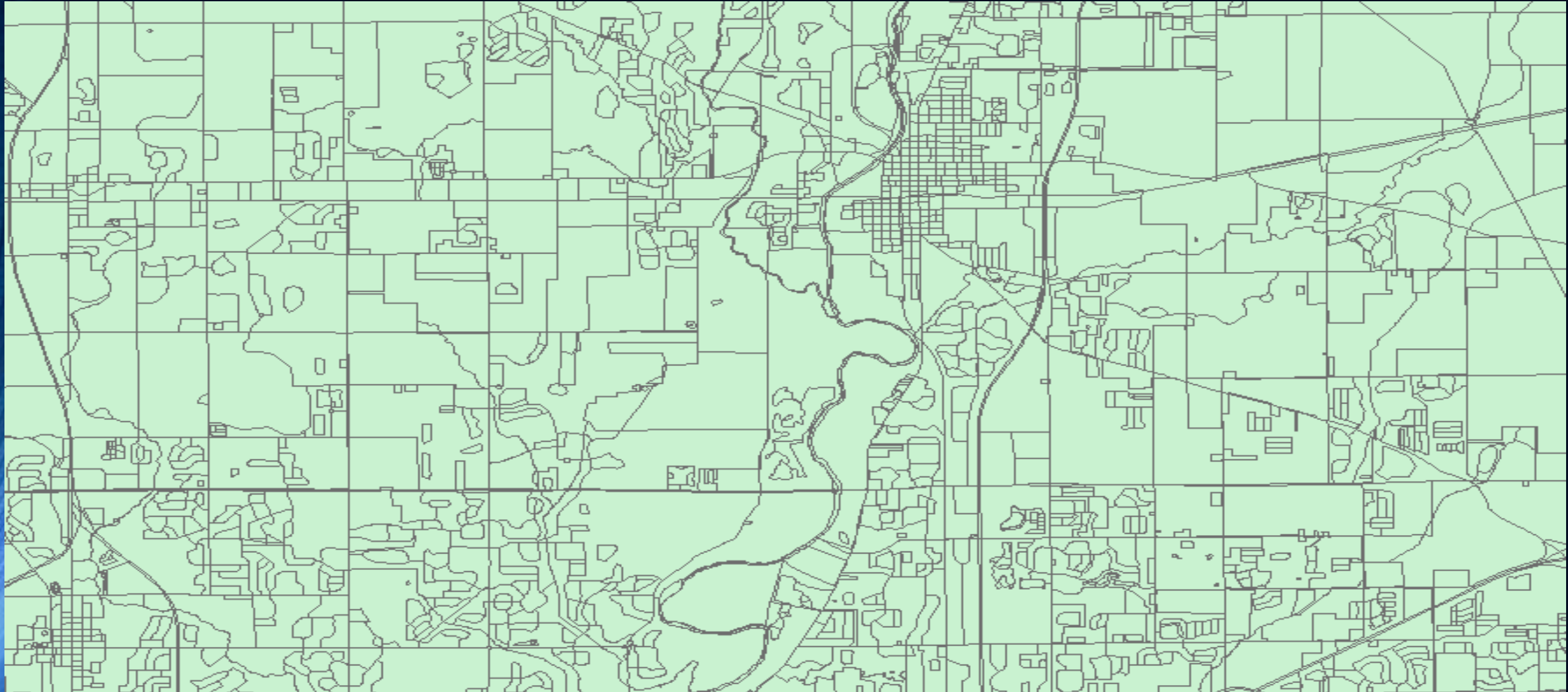
The Project

- A grant from NTIA to Indiana was awarded 5 October, 2009 in the amount of \$1.3 million for a two-year project.
- The grant was amended in August 2010 to a new total of 3.2 million (second lowest of all states and territories) and the project was extended an additional 3 years.

NTIA's Requirements

- By census blocks, show:
 - Service provider name
 - Technology used
 - Advertised speed (up and downstream)
- Create GIS files to depict availability of wireless broadband

Census Blocks (267,000)



Wireless Boundary (Shape File)

The screenshot displays a GIS application interface. The main map area shows a light blue background with a complex network of yellow lines representing wireless boundaries. The interface includes a top toolbar with various GIS tools, a 'Table Of Contents' panel on the left, and an 'Identify' window in the foreground.

Table Of Contents

- Layers
 - ☒ Landsurvey_County_Poly.
 - ☒ Broadband_Spring2013
 - ☐ IN_Block
 - ☒ Basemap
 - ☒ OpenStreetMap

Identify

Identify from:

- Cellco Partnership and its Affiliated Entities (d/b/a Verizon Wireless)
- Hoosier Broadband
- Omnicity
- On-Ramp Indiana, Inc.**
- On-Ramp Indiana, Inc.

Location: -9,576,754.777 4,871,910.887 Meters

Field	Value
OBJECTID	250
Provider Name	On-Ramp Indiana, Inc.
DBA Name	On-Ramp Indiana, Inc.
Provider Type	0
Technology_of_Transmission	70
Maximum_Advertised_Downstream_Speed	5
Maximum_Advertised_Upstream_Speed	4
URL	http://www.ori.net/
Shape	Polygon
Shape_Length	3.352065
Shape_Area	0.009753

Identified 23 features

Bottom status bar: -9581620.117 4871693.877 Meters

System tray: 1:06 PM 5/29/2013

Status

- In April 2013, IOT delivered the 7th iteration of Indiana's Broadband Map data to NTIA.
- To Date:
 - 122 Internet Providers
 - 64 Wireline Providers
 - 58 Wireless Providers

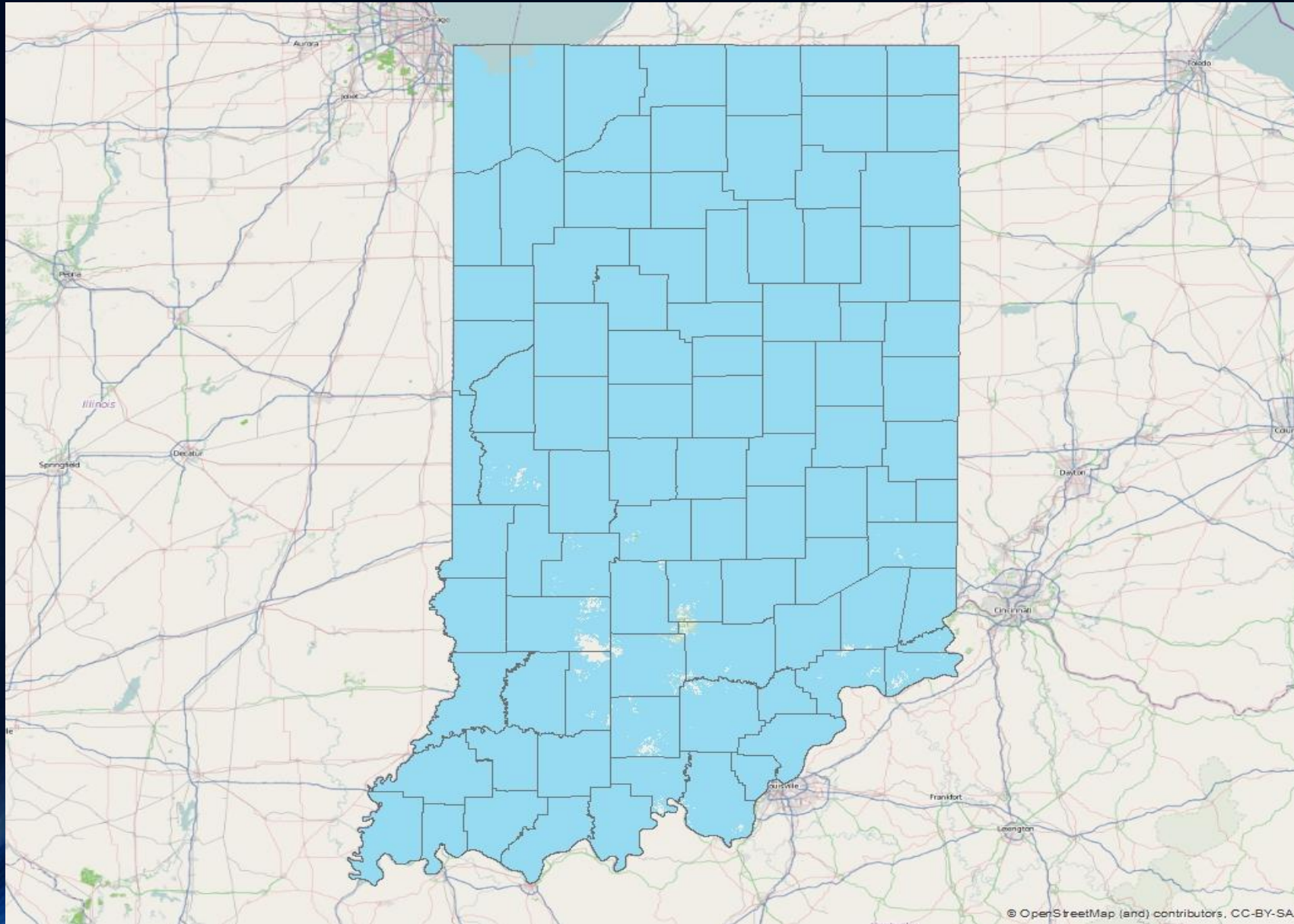
Wireline



Wireless



All Providers, All Technologies



National Rankings

Access by Percent to Service with Download Speeds Greater Than 3 Mbps, Upload Speeds Greater Than 0.768 Mbps

- Rank 1-5, New Jersey, Connecticut, D.C., Rhode Island, 100%
- Rank 31, Indiana, 97.5%
- Rank 56, American Samoa, 80.3%

The National Broadband Map

www.broadbandmap.gov



Please enter any address

Find Broadband

Explore the Maps or Analyze the Data

Analyze • Map • Developer • About • Native Nations

Rank • Summarize • Provider • Engage | Share • Blog • Twitter • Download • States



Recommend this on Google



Share



Tweet



Like

1k



The **National Broadband Map** is a tool to search, analyze and map broadband availability across the United States. Created and maintained by the **NTIA**, in collaboration with the **FCC**, and in partnership with 50 states, five territories and the District of Columbia.



NTIA • FCC • Website Policies and Notices • Privacy Policy • Recovery.gov • FOIA

Indiana Broadband Map

www.indianabroadbandmap.com

Indiana Office of Technology Broadband Map

[Login](#) | [Feedback](#) | [Help](#)

Zoom to County

Adams

Find Broadband Service By Address

Address

City/Zip

Locate Address

Find Broadband Service By Point

Activate the point tool (left), then click on the map to see providers for that location.

Provider Results

Provider Name	Max Speeds

Speed Filter

Download (Mbps)

Upload (Mbps)

Technology Type

☒ Wire Based (DSL, Cable, Fiber, Other)

☒ Wireless

Providers

☒ Show All

☐ Show Selected Providers

Select Providers

Providers

☒ Broadband Coverage

☒ Base Map: Road



Zoom to County

Adams

Find Broadband Service By Address

Address

City/Zip

Locate Address

Find Broadband Service By Point



Activate the point tool (left), then click on the map to see providers for that location.

Buffer Address or Point

Buffer Distance .5 Miles

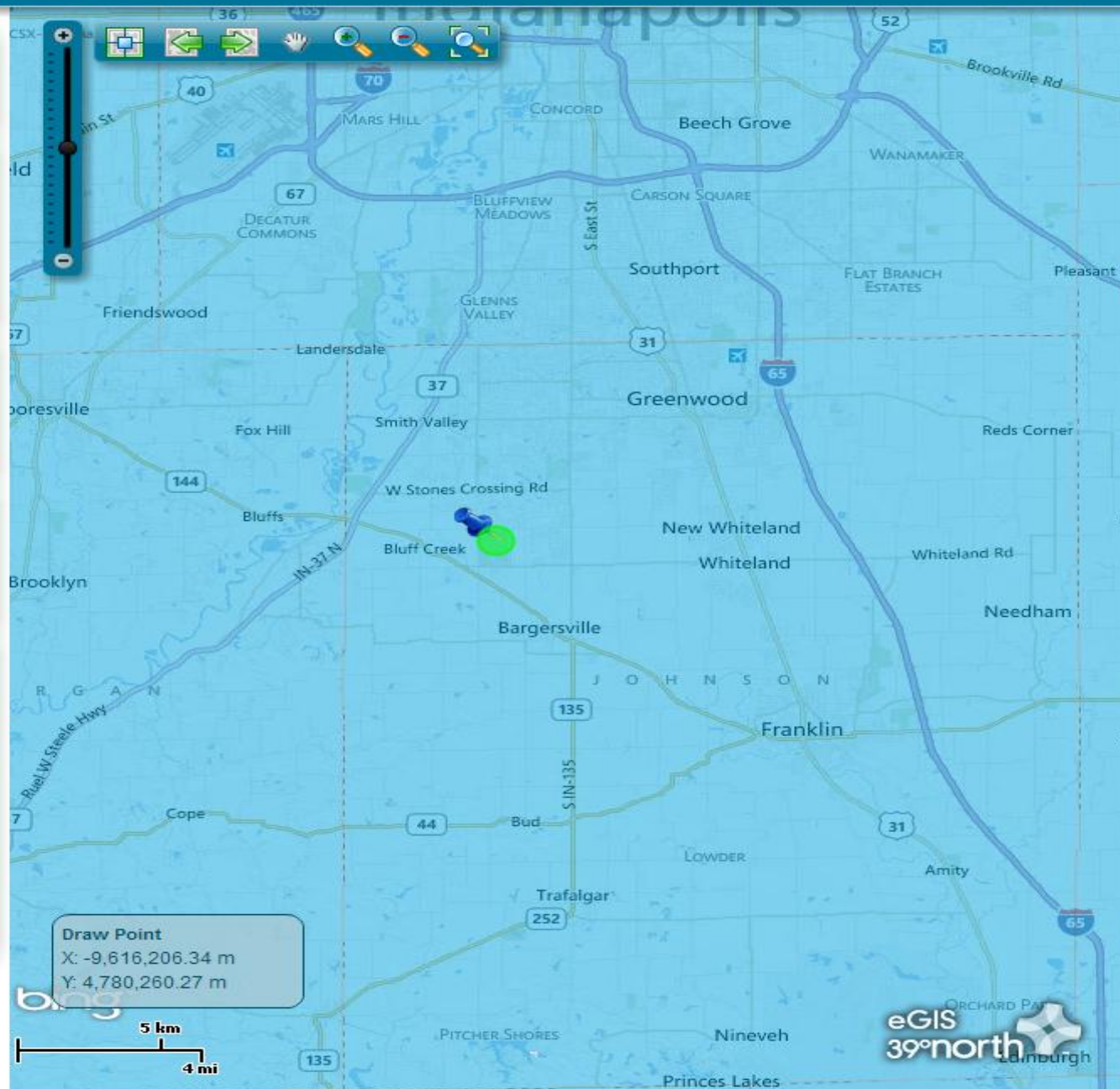
Execute

Provider Results

Clear

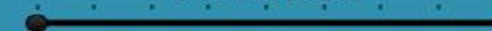
Provider	Max Speeds
CenturyLink	<div><div></div></div>
Comcast	<div><div></div></div>
Lightbound, LLC	<div><div></div></div>
On-Ramp Indiana, Inc.	<div><div></div></div>
AT&T Mobility LLC	<div><div></div></div>

Export to Excel



Speed Filter

Download (Mbps)



Upload (Mbps)



Technology Type

- ☒ Wire Based (DSL, Cable, Fiber, Other)
☒ Wireless

Providers

- ☒ Show All
☐ Show Selected Providers

Select Providers

Locate Census Block

Block Number 18

Locate

Layers

- ☒ Broadband Coverage
☐ Exchange Areas ☐ Census Blocks

☒ Base Map: Road

National Broadband Map

A New Formula For Success

\$5.5 million per state (average grant)

+

1 year

=

National Broadband Map

- Federal: Supply clear picture of target, provide funding, disseminate end product
- State: Orchestrate and aggregate
- Local: Cooperate, create, maintain

What else is possible?

- National Parcel Map
- National Street Centerline Map
- National Point Address Map



Jim Sparks
Indiana GIO

317-234-5889
gio@iot.in.gov